ABSOLUTE - (p, r) - PARANORMAL OPERATORS

D. SENTHILKUMAR AND P. MAHESWARI NAIK

Abstract

An operator $T \in B(H)$ is said to be absolute - (p, r) - paranormal operator if $\| |T|^p |T^*|^r x\|^r \|x\| \geq \| |T^*|^r x\|^{p+r}$ for all $x \in H$ and for positive real number $p > 0$ and $r > 0$, where $T = U|T|$ is the polar decomposition of T. In this paper, we prove that the Riesz projection associated with a $\lambda \in iso\sigma(T)$ is self adjoint if and only if $(T - \lambda)^{-1}(0) \subseteq (T^* - \bar{\lambda})^{-1}(0)$, where $T \in$ invertible absolute - (p, r) - paranormal operator $\cap B(\mathcal{H})$ and a sufficient condition for $\sigma_{aw}(T)$ (or, $\sigma_{sw}(T)$) to satisfy the spectral mapping theorem is also obtained. Also we prove that an absolute - (p, r) - paranormal operator is finite.